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19 Apr 00 Tim

Application No.: TBA

10/620,575
17 July 03

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Docket No.: 8733.418.10-US

L.G. Phillips

IN THE CLAIMS:

Divisional of 09/836,352 18 Apr 01

1-17. (canceled).

18. (original) An array substrate for an IPS-LCD device, comprising:
a substrate;
a gate line on the substrate;
a data line perpendicular to the gate line;
a thin film transistor at a crossing portion between the gate and data lines;
a common line parallel to the gate line;
a plurality of common electrodes extending perpendicular to the common line;
a plurality of pixel electrodes arranged alternately with the plurality of common electrodes;
an auxiliary common electrode perpendicularly contacting each of the common electrodes; and
an auxiliary pixel electrode perpendicularly contacting each of the pixel electrodes;
wherein the auxiliary pixel electrode is spaced apart from the auxiliary common electrode; and pixel electrodes are on a same layer.

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19. (original) An array substrate for an IPS-LCD device, comprising:

a substrate;
a gate line on the substrate;
a data line perpendicular to the gate line;
a thin film transistor at a crossing portion between the gate and data lines;
a common line parallel to the gate line, the common line including first and second auxiliary common lines perpendicular to the common line;
a plurality of common electrodes extending perpendicular to the first and second auxiliary common lines;
a plurality of pixel electrodes arranged alternately with the plurality of common electrodes;
an auxiliary common electrode perpendicularly contacting each of the common electrodes; and

O = 18, 19, 20, 30, 33, 34

an auxiliary pixel electrode perpendicularly contacting each of the pixel electrodes, wherein the auxiliary pixel electrode is spaced apart from the auxiliary common electrode.

20. (original) An array substrate for an IPS-LCD device, the array substrate comprising:

- a substrate;
- a gate line on the substrate;
- a data line perpendicular to the gate line;
- a thin film transistor at a crossing portion between the gate and data lines;
- a common line parallel to the gate line, the common line including a plurality of common electrodes extending perpendicular to the common line;
- a plurality of pixel electrodes arranged alternately with the plurality of common electrodes; and
- a plurality of auxiliary electrodes connecting the plurality of common and pixel electrodes in a check pattern.

21-29. (cancelled)

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30. (original) An array substrate for an LCD-device, the array substrate comprising:

- a substrate;
- a gate line on the substrate;
- a data line perpendicular to the gate line;
- a thin film transistor at a crossing portion between the gate and data lines;
- a pixel region surrounded by the gate and data lines, the pixel region including first and second domains;
- transverse pixel and common electrodes disposed on the first domain and parallel to the gate line, the transverse pixel and common electrodes being alternately arranged;
- perpendicular pixel and common electrodes disposed on the second domain and perpendicular to the transverse pixel and common electrodes, respectively, the perpendicular pixel and common electrodes being alternately arranged; and
- an alignment layer having first and second rubbing directions, the first and second rubbing directions corresponding to the first and second domains, respectively.

31. (original) The array substrate of claim 16, wherein the male electrode connects the first and second portions of the common electrode.

32. (original) The array substrate of claim 17, wherein the male electrode connects the first and second portions of the pixel electrode.

33. (original) An array substrate for an IPS-LCD device, comprising:

- a substrate;
- a gate line on the substrate;
- a gate insulating layer over the gate line;
- a data line perpendicular to the gate line;
- a thin film transistor at a crossing portion between the gate and data lines;
- a first passivation layer over the gate insulating layer, the data line and thin film transistor;

a plurality of pixel electrodes on the first passivation layer;

a second passivation layer over the pixel electrodes;

a common line on the second passivation layer and parallel to the gate line, the common line including first and second auxiliary common lines perpendicular to the common line;

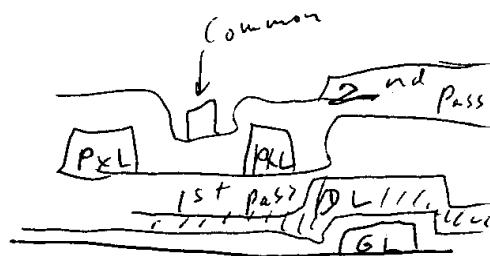
a plurality of common electrodes extending perpendicular to the first and second auxiliary common lines;

an auxiliary common electrode perpendicularly contacting each common electrode; and

an auxiliary pixel electrode perpendicularly contacting each of the pixel electrodes;

wherein the auxiliary pixel electrode is spaced apart from the auxiliary common electrode; and

wherein the pixel electrodes are arranged alternately with the common electrodes.



34. (original) An array substrate for an IPS-LCD device, comprising:

a substrate;

a gate line on the substrate;

a gate insulating layer on the gate line;

a data line perpendicular to the gate line;

a thin film transistor at a crossing portion between the gate and data lines;

a first passivation layer over the gate insulating layer, the data line and the thin film transistor;

a plurality of pixel electrodes on the first passivation layer;

a second passivation layer over the pixel electrodes;

a common line on the second pass layer parallel to the gate line;

a plurality of common electrodes on the second passivation layer perpendicular to the common line and arranged alternatively with the pixel electrodes;

a plurality of common electrodes on the second passivation layer perpendicular to the common line and arranged alternatively with the pixel electrodes;

an auxiliary common electrode perpendicularly contacting each of the common electrodes; and

an auxiliary pixel electrode perpendicularly contacting each of the pixel electrodes;

wherein the auxiliary pixel electrode is spaced apart from the auxiliary common electrode.

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